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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,679	08/21/2003	Aaron Frank	TI-36582	8299

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EXAMINER

NHU, DAVID

ART UNIT PAPER NUMBER

2818

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,679	<b>Applicant(s)</b> FRANK ET AL.	
	<b>Examiner</b> David Nhu	<b>Art Unit</b> 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 14-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_



## **DETAILED ACTIONS**

### ***Election/Restrictions***

1. Applicant's election of Group I (Claims 1-13, 27) is acknowledge.

Claims 1-13, 27 are remained for examination. Accordingly, claims 14-26 are canceled/withdrawn from consideration as being directed to a non-elected invention.

See 37 CFR 1.142(b) and MPEP § 821.03.

### **Specifications**

2. title "SYSTEM FOR ULTRAVIOLET ATMOSHPERIC SEED LAYER REMEDIATION", the "atmoshperic" should be –atmospheric–

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-13, 27 are rejected under 35 U.S.C. 102(b) as being anticipated Wydeven (6,555,835 B1), and Meder (6,254,689 B1).

**Regarding claims 1**, Wydeven, (see figures 1, 2, col. 3, lines 20-67, col. 4, lines 1-16), teach a semiconductor processing module comprising: a housing 18 adapted to enclose a semiconductor wafer 30; an ultraviolet (UV) radiation source 20 disposed within the housing; and a treatment medium (ozone) 16 disposed within the housing (see figure 1, col. 3, lines 20-39).

Regarding claim 2, Wydeven, (see figure 1), teaches the UV source 20 comprises an UV lamp.

Art Unit: 2818

Regarding claims 3, 4, 5, Wydeven , (see figure 1), teaches the treatment medium comprises ambient air; the treatment medium comprises oxygen, ozone.

Regarding claims 6-13, Wydeven, (see figures 1, 2), teaches a medium supply system 10 disposed within the housing; wherein the medium supply system comprises a gas inlet 46, and an ozone generator 16; a medium conditioning system disposed within the housing; wherein the treatment medium is a vacuum induced by the medium conditioning system; wherein the medium conditioning system comprises a filtration system 14.

**Regarding claim 27**, Meder, (see figures 1, 2, col. 4, lines 1-67, col. 5, lines 1-40), teach a system 10, 60 for remediating organic contaminants from a copper seed layer deposited on an upper surface of a semiconductor wafer, the system comprising: a housing 20, 75 adapted to receive and enclose the semiconductor wafer 27; an ultraviolet (UV) radiation source 30, 80 disposed within the housing and adapted to expose the semiconductor wafer to UV radiation; an ozone generator 17, 70 adapted to supply ozone into the housing as a treatment medium for the semiconductor wafer; and a conditioning system 30, 80 disposed within the housing and adapted to filter contaminants 45, 110 from the ozone.

Also, Wydeven, (see figures 1, 2, col. 3, lines 20-67, col. 4. lines 1-16), teach a system 10 for remediating organic contaminants from a copper seed layer deposited on an upper surface of a semiconductor wafer, the system comprising: a housing 18 adapted to receive and enclose the semiconductor wafer 30; an ultraviolet (UV) radiation source 20 disposed within the housing and adapted to expose the semiconductor wafer to UV radiation; an ozone generator 16 adapted to supply ozone into the housing as a treatment medium for the semiconductor wafer; and a conditioning system 24 disposed within the housing and adapted to filter contaminants 14 from the ozone.

Art Unit: 2818

### Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kelada'735, Sitte'420, Schenck'383, are cited as of interest.
6. A shortened statutory period for response to this action is set to expired 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).
7. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (571)272-1787.

*The fax phone number for the organization where this application or proceeding is assigned is (571)273-1792.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956*

David Nhu



April 19, 2005